



# UNITED STATES PATENT AND TRADEMARK OFFICE

11/17

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/557,627	11/17/2005	Gerard Elise Noel Schreurs	NL030627	4470

24737 7590 02/13/2008

PHILIPS INTELLECTUAL PROPERTY & STANDARDS  
P.O. BOX 3001  
BRIARCLIFF MANOR, NY 10510

EXAMINER
----------

NIU, XINNING

ART UNIT	PAPER NUMBER
----------	--------------

2828

MAIL DATE	DELIVERY MODE
-----------	---------------

02/13/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/557,627

**Applicant(s)**

SCHREURS ET AL.

**Examiner**

XNNING NIU

**Art Unit**

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 November 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The examiner believes that in claim 1, when the radiation source is driven in the second mode, the delta current is different from the delta current of the first mode should be labeled as something other than  $I_{\text{delta}}$ .

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Art Unit: 2828

5. Claims 1, 4, 7, 12, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burley (4,698,817).

6. Regarding claim 1, Burley discloses: driving the laser diode (10) with laser drive means (12) at a first temperature; in order for the laser to emit light the threshold current must already be determined and the current used to drive the laser diode is also higher than the threshold current (Figures 1, 3, Col 2, Lines 42-68; Col 3, Lines 26-42); measuring the radiation power emitted by the radiation source using photodiode (42) (Figures 3, Col 4, Lines 3-16); driving the laser diode (10) with laser drive means (12); the output of the photodiode is compared in the power detection means (44) to a reference power (Figures 3, Col 4, Lines 3-16); Driving the laser diode (10) with laser drive means (12) at a second temperature and also maintaining the output of the laser diode at the predetermined power (Figures 3, Col 4, Lines 3-16). Burley also discloses: plot of Light vs. Current (L-I curve) which shows slope efficiency of laser changes with temperature. Burley does not disclose: determining the delta current based on the threshold current using a function F and calibrating the function F by determining the radiation power and delta current at different temperatures (resulting in different threshold currents). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the input/output data for the laser to determine the delta current (current above threshold) by plotting out the L-I curve of figure 1 (the delta current would be the current at the present power level minus the current at threshold), subsequent delta currents can be estimated using a function which depends

Art Unit: 2828

on the threshold current at two different temperatures, the delta current at two different temperatures and the change in slope efficiency with respect to temperature. This function can be continuously updated as the laser is operated at different temperature points. This approach would result in smaller current adjustments for the laser control circuit.

7. Regarding claim 4, see the rejection for claim 1.

8. Regarding claim 7, Burley discloses: measuring the radiation power emitted by the radiation source using photodiode (42) (Figures 3, Col 4, Lines 3-16); the addition means is inherently a part of the laser drive means (12) and laser bias means (14) since the current outputted is the threshold current and the current above threshold (Figure 3, Col 3, Lines 27-60). Burley does not disclose: a threshold current determining means, a delta current determining means, delta current generator, estimated delta current generator, delta current outputting means and calibration means. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the input/output data for the laser to determine the delta current (current above threshold) by plotting out the L-I curve of figure 1 (the delta current would be the current at the present power level minus the current at threshold), subsequent delta currents can be estimated using a function which depends on the threshold current at two different temperatures, the delta current at two different temperatures and the change in slope efficiency with respect to temperature. This function can be continuously updated

Art Unit: 2828

as the laser is operated at different temperature points. The benefit of approach would be smaller current adjustments for the laser control circuit. A computer with a computer program can be used to carry out the steps above in order to estimate the current above threshold for a particular temperature. The computer and computer program would include the threshold current detection means, delta current detection means, delta current generator, estimated delta current generator, calibration means. The output of the computer program would be connected to the laser drive circuit to bias the laser.

9. Regarding claim 12, see the rejection for claim 7.

10. Regarding claim 14, see the rejection for claim 7.

***Allowable Subject Matter***

11. Claims 2, 3, 5, 6, 9-11, 13, 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to XNNING NIU whose telephone number is (571)270-1437. The examiner can normally be reached on M-T, 7:30-5:00 EST, Alternate Fridays 7:30-4:00 ES.

Art Unit: 2828

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Min Sun Harvey can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Xinning(Tom) Niu/  
Examiner, Art Unit 2828  
01/31/2008

